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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/590,934	08/28/2006	Tadashi Katafuchi	293941US0X PCT	2739

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OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, L.L.P.
1940 DUKE STREET
ALEXANDRIA, VA 22314

EXAMINER

GOLOBOY, JAMES C

ART UNIT	PAPER NUMBER
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1797

NOTIFICATION DATE	DELIVERY MODE
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12/22/2009

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/590,934	Applicant(s) KATAFUCHI, TADASHI	
	Examiner James Goloboy	Art Unit 1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 September 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Applicant's amendments filed 9/2/09 overcome the rejections set forth in the office action mailed 6/2/09. new grounds of rejection necessitated by the amendments are set forth below.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. Claims 1-8 and 10-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tiffany in view of Tiffany (5,330,667, "Tiffany '667").

The discussion of Tiffany in paragraph 4 of the office action mailed 6/2/09 is incorporated here by reference. Tiffany discloses a composition which is preferably used in two-cycle engines and comprises the mixture of succinimides recited in the claims, and in column 8 lines 11-23 discloses that the dispersants can be post-treated

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with boron compounds. In column 13 lines 9-13 Tiffany discloses that the composition has a viscosity of 10 to 1,000 cSt at 40°C, which will lead to a range of viscosities as 100° C overlapping the range recited in claim 10. The high molecular weight succinimide of Tiffany's compositions F-4 through F-6 has an alkenyl group with a molecular weight of 950, within the range recited in claim 13. In column 8 lines 7-10 Tiffany discloses that the low molecular weight succinimide is preferably prepared from at least one equivalent of nitrogen-containing reactant per one equivalent of acylating agent, leading to monosuccinimides meeting the limitations of claims 2 and 11-12. In column 8 lines 49-50 Tiffany teaches that the high molecular weight succinimide can be a monosuccinimides, meeting the limitations of claims 14-15, or a polysuccinimide, such as a bissuccinimide as recited in claims 16-17. Tiffany does not disclose the boron content provided by the borated dispersants.

Tiffany '667 discloses an additive composition for two-cycle oils comprising a mixture of dispersants. In column 14 lines 16-63 Tiffany '667 teaches that one or both of the dispersants is borated, and in column 14 lines 52-54 Tiffany '667 teaches that the borated dispersant preferably contains 0.2 to 0.8% by weight of boron. As the compositions of Tiffany preferably contain from 10 to 25% by weight of dispersant (see table in column 12, components I and II), the boron content of the composition when the dispersants are borated to the level taught by Tiffany '667 would range from 200 ppm to 2,000 ppm meeting the limitations of amended claims 1 and 4. Tiffany '667 teaches that boric acid is used for borating the dispersants, meeting the limitations of claims 18-20.

It would have been obvious to one of ordinary skill in the art to borate the dispersants of Tiffany to the level taught by Tiffany '667, as Tiffany '667 teaches that it is the preferred boration level for dispersants in a two-cycle oil.

5. Claims 1-5, 9-17, and 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morita.

The discussion of Morita in paragraph 3 of the office action mailed 6/2/09 is incorporated here by reference. The paragraph numbers used in the following discussion of Morita correspond to the paragraph numbers in the US equivalent (US 2004/0192562). In paragraph 15 Morita discloses that the base oil preferably has a viscosity of 2 to 8 cSt at 100° C, within the range recited in claim 10 and also forming a composition meeting the limitations of claim 13. Morita discloses in paragraph 40 that the low molecular weight succinimide can be a monosuccinimide meeting the limitations of claims 11-12, and in paragraphs 58-61 that the high molecular weight, borated succinimides can be mono- or bisuccinimides, meeting the limitations of claims 14-17. In paragraph 43 Morita discloses specific suitable alkenyl groups for the low molecular weight succinimide meeting the limitations of claim 9. In paragraph 70 Morita teaches that the borated dispersant can be prepared using a boric acid or a boric acid ester, as recited in claims 19-20. The difference between Morita and the currently presented claims is that Morita does not disclose compositions with boron contents within the range recited in the amended claims.

In paragraph 74 Morita discloses that the composition preferably comprises from 0.002 to 0.03% by weight of boron, or 20 to 300 ppm, overlapping the ranges recited in amended claims 1, 4, and 10. See MPEP 2144.05(I): "In the case where the claimed ranges "overlap or lie inside ranges disclosed by the prior art" a prima facie case of obviousness exists. *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976);"

Response to Arguments

6. Applicant's arguments have been considered but are moot in view of the new grounds of rejection. Tiffany '667 teaches that newly added limitations regarding borated dispersants.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James Goloboy whose telephone number is (571)272-2476. The examiner can normally be reached on M-F 9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on 571-272-1444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JCG

/Glenn A Caldarola/
Acting SPE of Art Unit 1797